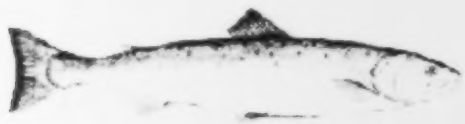
Fisheries and Oceans | Pêches et Océans
Newfoundland Region

DFO Science
Stock Status Report D2-03



ATLANTIC SALMON

INSULAR NEWFOUNDLAND, NORTHEAST AND EAST COASTS, SALMON FISHING AREAS 3-8

Background

There are 63 Scheduled Rivers in SFAs 3-8. Specific rivers assessed in this area include Exploits River, Campbellton River, and Gander River in SFA 4 and Middle Brook, Terra Nova River, and Northwest River (Terra Nova National Park) in SFA 5. A counting fence was operated in the Northwest Branch tributary of Main River (Sop's Arm) in SFA 3 for the first time in 1996. A map showing the location of each of these rivers is provided in Fig. 1. Since 1992 there has been a moratorium on the commercial Atlantic salmon fishery. Also in 1992-96, there was a moratorium on the Northern Cod Fishery, which should have eliminated salmon by-catches in cod fishing gear. It is still possible that some Atlantic salmon destined for rivers in SFAs 3-8 are caught in commercial fisheries in Labrador and West Greenland. Historically, rivers in SFAs 3-8 have been characterized by runs comprised of in excess of 90% small salmon (<63 cm in fork length). There has been a general increase in the proportion of large salmon (≥63 cm in fork length) since the closure of the commercial fishery. Most large salmon are repeat spawning grilse, which are fish that spawn for the first time after one full year at sea.

The Exploits River has undergone Atlantic salmon enhancement since the late 1950s, with the last stocking with swim-up fry occurring in 1993. Enhancement involving adult transfers in the upper watershed was carried out in Terra Nova River during 1985-89; a swim-up fry stocking program was initiated in the same area in 1994 and continued in 1996.

The conservation egg deposition requirement for each river is based on 2.4 eggs per m^2 of riverine rearing habitat and 368 eggs per hectare of lake habitat. Status of stock is assessed in relation to the proportion of the conservation egg requirement achieved in a given year and trends in abundance of various life stages.

Figure 1. Map of Newfoundland showing the locations of Salmon Fishing Areas 3-8 and assessment facilities: (1) Main R., (2) Exploits R., (3) Campbellton R., (4) Gander R., (5) Middle Brook., (6) Terra Nova R. and (7) Northwest R.

The Fishery

Many Scheduled Rivers were closed to angling in all SFAs for varying periods in mid to late August because of low water levels and high water temperatures. These closures are not expected to have had a significant impact on catches since they occurred at a time of the year when most angling activity is normally drawing to a close. The number of small salmon kept in 1996 (17,785) was the highest since 1988, increasing by 37% over 1995 and by 47% over the average for 1992-95 (Fig. 2). As in 1994 and 1995, the number of small salmon kept in 1996 was well above that of 1992 and 1993, when SFA quotas were in effect. Information on the number of small salmon released is available since 1993 (Fig. 2). The number released in 1996 was

Canada

104-02257/

65% higher than in 1995 and was the second highest recorded. Angling effort in 1996 was the second highest recorded since 1974.

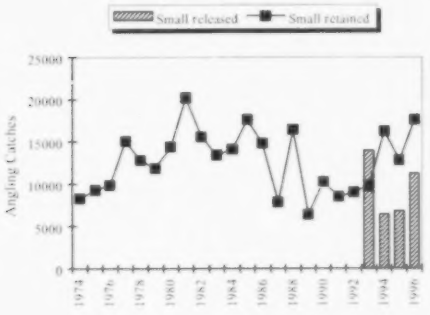


Figure 2. Recreational catches of small salmon in Salmon Fishing Areas 3-8, 1974-96.

In conjunction with the operation of the counting fence in Northwest Branch, Main River (Sop's Arm), it was determined that 45% of all fish entering this tributary were hooked and released.

There were special management measures in place for a number of rivers. After the closure of the commercial fishery in 1992, angling effort and catch increased markedly in Main River (Sop's Arm) and Exploits River. There was concern that increased exploitation would negatively affect the spawning stock in Main River and jeopardize the enhancement program in the upper Exploits River. The management strategy adopted for Main River in 1995 was a shorter angling season for retention (July 8-September 4) and a quota of 500 small salmon. The quota was maintained in 1996 and the season for retention was July 6-September 2; the Northwest Branch tributary was open to hook-and-release fishing only and certain areas were closed to all angling.

The management plan for Exploits River in 1995 involved a shorter season for retention (July 8-September 4) and a quota of 1,330 small salmon. The quota was abandoned in 1996. Below Grand Falls, retention of catch was permitted during July 10-September 2 and outside these dates only hook-and-release fishing was permitted. Above Grand Falls, the main stem between Grand Falls and Red Indian Lake and all tributaries flowing into Red Indian Lake were open to hook-and-release fishing for the entire season. For tributaries between Grand Falls and Red Indian Lake, retention and hook-and-release dates were the same as for below Grand Falls.

Northwest River (Terra Nova National Park), and two nearby rivers in SFA 5, Southwest Brook and Salmon River, were closed to all angling in 1996 on the basis of pre-season analyses which projected that less than 50% of conservation egg requirement would be achieved. After an in-season review projected that each river would attain in excess of 50% of conservation requirement, hook-and-release fishing was permitted after August 10. However, the portion of Northwest River inside Terra Nova National Park remained closed for the remainder of the season due to low water levels and high water temperatures.

There was a fall hook-and-release fishery in the main stem of Gander River below Gander Lake during September 3-29. During this period, 30 small and 9 large salmon were released, with an effort expenditure of 158 rod days.

Resource Status

Returns

Indices of trends in abundance were from counts of small and large salmon for the following rivers: Exploits River, Gander River, Campbellton River, Middle Brook, Terra Nova River, and Northwest River (Terra Nova National Park). Collectively for these rivers, counts of small and large salmon during the five moratorium years (1992-96) increased significantly over counts during pre-moratorium years 1984-91. The proportion of large salmon showed a significant increase in all rivers but Gander River. At some counting facilities, counts of small and large salmon similar to or greater than those of 1992-96 occurred in certain pre-moratorium years. Even though returns to the lower and middle Exploits River increased over previous years, returns to the upper Exploits River decreased. Counts of small (593) and large (203) salmon for Northwest River (Terra Nova National Park) for 1996 increased over those of 1995 (498 small and 135 large). Counts for Northwest Branch, Main River (Sop's Arm) in 1996 were 579 small and 49 large salmon. There was no information available for SFAs 6-8 from which to determine status of stocks.

Net marks were found on 12.2% of the salmon sampled at the counting fence in Gander River during the period June 17-August 4 and on 4.3% of the salmon entering Campbellton River, monitored over the entire run with a video camera fish counting system. Of the fish examined in Exploits River from June 10 to September 6, 16.2% were marked.

During commercial fishery moratorium years, total numbers of small salmon returning to rivers are assumed to be equivalent to the total numbers produced. Estimated total production prior to the moratorium can be achieved by adding estimated commercial catches to total river returns. Since 1974, there has been an overall decline in the production of small salmon in Gander River and Middle Brook, with levels of production during the moratorium being among the lowest on record. In other words, while returns to these rivers improved substantially during the moratorium, total population sizes were low compared to pre-moratorium levels.

Egg depositions relative to conservation

For the years 1993-96, a hook-and-release mortality of 10% was used in the calculation of egg depositions for each river. Conservation egg requirements were achieved in 1996 in the lower Exploits River, Campbellton River, Gander River, and Middle Brook (Fig. 3). The middle and upper sections of the Exploits River, Terra Nova River, and Northwest River (Terra Nova National Park) did not achieve conservation requirement in 1996. Additional information on the individual assessment for each river is provided in the attached Summary Sheets.

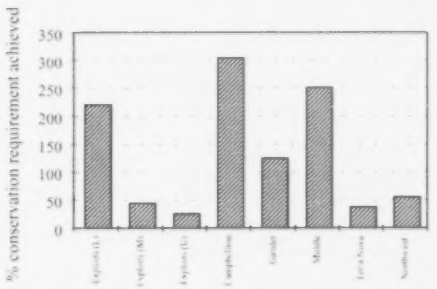


Figure 3. Egg depositions expressed as a percentage of conservation requirements in Exploits, Campbellton, Gander, Terra Nova and Northwest rivers and Middle Brook in 1996.

There are reports from anglers that there was an unusually high mortality on hooked-and-

released salmon from boats in the lower Exploits River.

Environmental considerations

In general, water levels were below normal in June but increased to above normal in July. In August, low water levels and high water temperatures resulted in the closure of a large number of rivers to angling for one or two weeks from around the middle of the month onwards. Marine environmental conditions in 1996, as measured by sea-surface temperature, improved compared to the early 1990s.

Outlook

Short-term

Returns to Gander River and Middle Brook in 1997 are anticipated to be in excess of conservation requirements. Anticipated returns to Campbellton River in 1997, based on smolt-to-adult survival rates observed for that river, are expected to exceed those recorded to date and to exceed the conservation requirement. Overall increases in returns of adults with a three-year-old smolt age, the progeny of increased numbers of spawners in the first year of the moratorium, are expected in 1997. The magnitude of these returns will depend on the strength of the three-year-old age component and sea survival, which can vary annually and from river to river.

Long-term

Some rivers in SFAs 3-8 produce smolts that are predominantly three years old while others have mainly four-year-old smolts. Five-year-old smolts are few in number. The first year of major adult returns resulting from the increased egg depositions in 1992-96 will be in 1998, when three-year-old and four-year-old smolt ages are recruited and numbers are expected to exceed those recorded during the moratorium years. Increased levels of returns are expected to continue as all spawning year-classes corresponding to the increased egg depositions observed during the five moratorium years are gradually recruited. This expectation assumes that sea survival will not fall below that currently being observed.

Management Considerations

An objective of splitting the seasonal bag limit for the retention of small salmon (three prior to and after July 31) was to constrain catches to levels observed just prior to the moratorium, with the intent of not reallocating catch from the commercial fishery to the recreational fishery. SFA quotas were effective in this regard but the split season was not as successful as anticipated. Catches and effort increased markedly over pre-moratorium levels. Increased catches were also reflected in increased exploitation rates in some rivers. However, had the split season not been in place, catches would have been much higher.

The occurrence of net marks on salmon in Exploits, Campbellton, and Gander rivers was likely the result of encounters with illegal and legal fishing gear in coastal waters. Mortality from this source appears to be higher in the Exploits-Gander area than in other areas.

Management measures in place for Main River (Sop's Arm) and Exploits River in 1996 should continue. There is still concern that returns to the upper Exploits River are low. Management strategies should be adopted to reduce mortality on fish destined for the upper Exploits River. There are still conservation concerns for Northwest River (Terra Nova National Park), Southwest River, and Salmon River. A management strategy should be developed for Terra Nova

River that takes into consideration the enhancement program above Mollyguajeck Falls. There are no concerns regarding the fall hook-and-release fishery in Gander River in September provided the conservation requirement is met. If mortality becomes high, it may result in the over-exploitation of a possible localized lower river stock.

For more information:

Contact: Rex Porter
Dept. of Fisheries and Oceans
Science Branch
P. O. Box 5667
St. John's NF A1C 5X1

Tel. (709) 772-4410
Fax: (709) 772-3578
e-mail: porterr@athena.nwafc.nf.ca

References

Bourgeois, C. E., J. Murray, and V. Mercer. 1997. Status of the Exploits River stock of Atlantic salmon (*Salmo salar* L.) in 1996. DFO, CSAS Res. Doc. 97/32.

O'Connell, M. F., J. B. Dempson, C. C. Mullins, D. G. Reddin, N. M. Cochrane, and D. Caines. 1997. Status of Atlantic salmon (*Salmo salar* L.) stocks of the Newfoundland Region, 1996. DFO, CSAS Res. Doc. 97/42.

O'Connell, M. F., and D. G. Reddin. 1997. Status of Atlantic salmon (*Salmo salar* L.) in Middle Brook and Terra Nova River (SFA 5), Biscay Bay River (SFA 9), and Northeast River, Placentia (SFA 10), Newfoundland, 1996. DFO, CSAS Res. Doc. 97/40.

O'Connell, M. F., D. G. Reddin, and E.G.M. Ash. 1997. Status of Atlantic salmon (*Salmo salar* L.) in Gander River, Notre Dame Bay (SFA 4), Newfoundland, 1996. DFO, CSAS Res. Doc. 97/41.

This report is available:

Science Branch
Dept. of Fisheries and Oceans
Newfoundland Region
P.O. Box 5667
St. John's NF A1C 5X1
(709) 772-4355
e-mail address: gperry@athena.nwafc.nf.ca
Internet address: http:\\www.nwafc.nf.ca

STOCK: Exploits River (SFA 4) **Drainage area:** 11,272 km^2

CONSERVATION REQUIREMENT: 95.9 million eggs (equivalent to 56,670 small salmon); Lower Exploits 16.4 million eggs; Middle Exploits 64.2 million eggs; Upper Exploits 15.4 million eggs.

Year	1991	1992	1993	1994	1995	1996	MIN	MAX	MEAN[4]
Total returns[1]:	5758	13818	22777	18472	17090	32369	3845	19557	8966
Small	5659	13504	22150	17556	16149	30316	4740	19205	8785
Large	99	314	627	916	941	2053	343	352	180
Recreational catch									
Small (retained)	1045	1408	1655	3072	1302	1915	577	2998	1660
Small (released)	-	-	2980	1145	1531	3202	1145	3202	2787
Large(released)	-	-	59	30	72	111	30	111	68
Other Mortalities									
Small	-	-	298	115	153	361	115	361	232
Large	-	-	6	3	7	11	3	11	8
Brood removals[2]:	1408	1078	0	0	0	0	31	5111	3371
Conservation requirement % eggs met[3]:									
Lower Exploits	31	69	117	105	126	216	27	39	31
Middle Exploits	15	17	15	18	19	42	8	15	12
Upper Exploits	0.3	2	7	8	16	26	0.3	125	86
Total of Watershed	12	17	23	19	22	44	12	30	23

[1] MIN, MAX period from 1974-91.
[2] MIN, MAX period from 1974-92.
[3] MIN, MAX period from 1987-91.
[4] MEAN period from 1987-91

Methodologies: There are 35 million m^2 units of fluvial habitat and 34,000 ha of lacustrine habitat. Conservation egg requirements are to come from small salmon. Previous fry releases are backcalculated to eggs for % of conservation egg deposition achieved in areas stocked. Total returns to the river are based on the count at Bishop Falls fishway plus angling below the fishway. Spawning escapements for the tributaries of the Lower Exploits except for Great Rattling Brook are derived from spawning surveys in 1992 and 1993.

Broodstock requirements: None at present.

Recreational catches: The 1996 recreational fishery on the Exploits below Grand Falls was restricted to hook and release up to July 9. The main stem of the Exploits River, upstream of Grand Falls was open only to hook and release for the entire season.

State of the stock: Overall returns to the Exploits River, have improved during the moratorium years; however returns to the upper section of the watershed are extremely low and all efforts should be made to increase escapement to this section of the watershed.

Forecast: The high returns in 1996 appear to have resulted from very high natural survival rates. If these conditions prevail the 1997 returns should be similar to the 1996 returns.

STOCK: Campbellton River (SFA 4) **Drainage area**: 296 km^2 (accessible)

CONSERVATION REQUIREMENT: 2.916 million eggs (~1480 small salmon) calculated as fluvial area x 2.4 eggs/m^2 and 368 eggs per hectare of pond habitat.

Year	1991	1992	1993	1994	1995	1996	MIN	MAX	MEAN
Total returns:									
Small	-	-	4001	2857	3035	3208	2857	4001	3275
Large	-	-	145	191	218	560	145	560	279
Recreational harvest (small salmon)[1]									
Retained	126	311	316	340	393	463	23	1547	1824
Released	-	30	103	4	47	93	4	103	55
Recreational harvest (large salmon)[2]									
Retained	0	0	0	0	0	0	0	0	0
Released	-	0	0	1	1	31	1	31	7
Other mortalities									
Small	0	0	0	0	0	0	0	0	0
Large	0	0	0	0	0	0	0	0	0
Spawners:									
Small	-	-	3675	2517	2637	2736	2517	3675	2891
Large	-	-	145	191	218	557	145	557	278
Conservation requirement % eggs met:			311	239	279	304	239	311	283
Smolt count[3]			31577	41633	39715	58369	31577	58369	42831
Sea survival[4]			7.2	6.1	7.2		6.1	7.2	6.8

[1] Min, max and mean recreational harvest for period 1974-96; other mean data for 1986-91 to coincide with the pre-moratorium period. Angling harvests are DFO statistics.

[2] Min., max. and mean for the period 1993-96.

[3]Sea survival of smolt to 1SW salmon returns. Min. and max. are for 1993-96 smolt migrations.

Data and methodology: Smolts were enumerated by a counting fence. Returning adult salmon are enumerated at a fishing counting fence with a video camera system A hook-and-release mortality of 10% was used in the calculation of spawning escapements for the years 1993-96.

State of the stock: Target requirements were met from 1993 to 1996.

Forecast: Adult returns in 1997 from the smolt migration in 1996 should be approximately 4,000 fish plus repeat spawners at average 22% survival rate thus giving an upstream migration of 5,100 fish.

STOCK: Gander River (SFA 4) **Drainage area:** 6,398 km^2

CONSERVATION REQUIREMENT: 46.211 million eggs (21,828 small salmon) calculated as fluvial area x 2.4 eggs/m^2 and lacustrine area x 368 eggs/ha.

Year	1991	1992	1993	1994	1995	1996	MIN	MAX	MEAN
Recreational harvest (small salmon)[1]									
Retained	1180	1268	1271	2122	2598	3009	1155	4575	2459
Released			1950	448	612	1148	448	1950	1003
Recreational harvest (large salmon)									
Retained									-
Released			92	39	74	73	39	92	-
Conservation requirement[2]									
% eggs met	36%	118%	128%	91%	95%	124%	36%	44%	39%

[1] Recreational fishery data for retained fish are for the period 1974 to 1991 (prior to the commercial fishery moratorium). Harvests for 1992 and 1993 are retained catches to the time the SFA quota was caught. Data prior to 1992 and for 1994-96 are retained fish for the entire angling season. Data for 1987 are omitted from the calculations of min., max., and mean due to the closure of parts of the river as a result of drought conditions. Data for released fish are for the years 1993-96.

[2] Summaries (min. max., and mean) for counts and conservation requirement are for 1989-91. Percent of conservation requirement met represents the contribution of both small and large salmon.

[3] Counts for 1992 were adjusted.
Note: any changes from previous years were due to the updating of preliminary data and biological characteristics information.

Recreational catches: Catches have ranged from 1,155 to 4,575 small salmon during the period 1974-91. Catches declined during 1981-91, before the salmon moratorium. Effort has increased substantially since 1994. The number of small salmon retained in 1996 was 3009 (an increase of 16% over 1995) and the number released was 1148 compared to 612 in 1995.

Data and assessment: Complete counts of salmon were obtained at a fish counting fence during 1989-96, and have historically been counted at a fishway located on a tributary, Salmon Brook. A hook-and -release mortality of 10% was used in the calculation of spawning escapements for the years 1993-96.

State of the stock: Conservation requirement was exceeded in 1996, the third time since the start of the moratorium in 1992. The relative contribution of large salmon to total egg deposition in 1996 was 13%, which was an increase over that recorded for 1993-95 (11% each year), but represented a substantial decline from 34% observed in 1992; the average for pre-moratorium years 1989-91 was 13%. Conservation requirement in terms of small salmon was met only in 1993. Using Salmon Brook as an indicator of returns to the entire river, it is likely that returns of small salmon of a magnitude similar to or greater than those in 1992-96 occurred in pre-salmon moratorium years. Total population sizes of small salmon and spawning escapements for pre-salmon moratorium years 1989-91 were the lowest for the period 1974-91. Counts of large salmon at Salmon Brook in 1992-96 were the highest on record. Most smolts leaving Gander River are four years old. Increased returns of adults with a smolt age of three years, the progeny of the greatly increased escapement in 1992 due to the closure of the commercial fishery, are expected in 1997. The magnitude of these returns will depend on the strength of the three-year-old smolt age component.

Forecast: Based on an analysis of the numbers of small salmon produced per spawner, returns in 1997 are anticipated to be in excess of conservation requirement. An alternate prediction based on juvenile population estimates as indices of abundance also indicates conservation requirement will be exceeded in 1997.

STOCK: Middle Brook (SFA 5) **Drainage area:** 276 km^2

CONSERVATION REQUIREMENT: 2.3 millions eggs (1,012 small salmon) calculated as fluvial area x 2.4 eggs/m^2 and lacustrine area x 368 eggs/ha.

Year	1991	1992	1993	1994	1995	1996	MIN[1]	MAX[1]	MEAN[1]
Recreational harvest (small salmon)[1]									
Retained	278	423	299	409	402	476	165	789	461
Released			387	122	82	153	82	387	197
Recreational harvest (large salmon)									
Retained	0	0	0	0	0	0	0	0	-
Released			0	37	0	0	0	37	0
Other mortallities									
Small					3	16			
Large									
Counts[2]									
Small	562	1182	1959	1513	1139	1751	496	2414	1118
Large	14	43	87	90	168	161	13	91	34
Conservation requirement[3]									
% eggs met	51%	148%	238%	174%	114%	250%	49%	131%	78%

[1]Recreational fishery data for retained fish for the period 1974 to 1991 (prior to the commercial fishery moratorium). Harvests for 1992 and 1993 are retained catches to the time the SFA quota was caught. Data prior to 1992 and for 1994-96 are retained fish for the entire angling season. The years 1979 and 1987 are omitted from calculations of min, max, and mean due to river closures resulting from drought conditions. Data for released fish are for the years 1993-96.

[2]Means for counts are from 1980 to 1991.

[3]Summary (min., max., and mean) for the conservation requirement is for 1984-91. Percent of conservation requirement met represents the contribution of both small and large salmon.

Note: any changes from previous years were due to the updating of preliminary data and biological characteristics information.

Recreational catches: For the period 1974-91, harvests ranged from 165 to 789 small salmon. Rod-days of effort peaked during the mid-1980s but declined substantially in recent years. A total of 476small salmon was retained in 1996 and 153 were released.

Data and assessment: Complete counts are available from a fishway located on the lower river. A hook-and-release mortality of 10% was used in the calculation of spawning escpements for the years 1993-96.

State of the stock: Conservation requirement was exceeded in 1992-96. Egg deposition was below conservation requirement for pre-salmon moratorium years 1985-91. Counts of small salmon similar to or higher than those observed during the moratorium years 1992-96 occurred in pre-salmon moratorium years. Counts of large salmon in 1995 and 1996 were the highest recorded. Total population sizes of small salmon during the moratorium years were substantially lower than in the late 1970s and early 1980s.

Forecast: Based on an analysis of the numbers of small salmon produced per spawner, returns in 1997 are anticipated to be in excess of conservation requirement.

STOCK: Terra Nova River (SFA 5) **Drainage area:** 1,883 km^2

CONSERVATION REQUIREMENT: 14.30 million eggs (7,094 small salmon) calculated as fluvial area x 2.4 eggs/m^2 and lacustrine area x 368 eggs/ha.

Year	1991	1992	1993	1994	1995	1996	MIN	MAX	MEAN
Recreational harvest (small salmon)[1]									
Retained	448	409	484	822	696	896	243	850	559
Released			569	178	132	260	132	569	293
Recreaticnal harvest (large salmon)									
Retained	0	0	0	0	0	0	0	0	-
Released			62	44	72	113	44	113	-
Broodstock									
Small				64	222	225			
Large				9	44	32			
Counts[2]									
Small	873	1443	2713	1571	2258	2005	569	1737	1087
Large	114	270	470	242	634	464	19	206	101
Conservation requirement[3]									
% eggs met	15%	28%	53%	26%	45%	36%	14%	28%	19%

[1]Recreational fishery data for retained fish are for the period 1974 to 1991 (prior to the commercial fishery moratorium). Harvests for 1992 and 1993 are retained catches to the time the SFA quota was caught. Data prior to 1992 and for 1994-96 are retained fish for the entire angling seasen. Data for released fish are for the years 1993-96.
[2]Means for counts are from 1979 to 1991.
[3]Summary (min., max., and mean) for the conservation requirement is for 1984-91. Percent of conservation requirement met represents the contribution of both small and alrge salmon.
Note: any changes from previous years were due to the updating of preliminary data and biological characteristics information.

Recreational catches: For the period 1974-91, harvests ranged from 243 to 850 small salmon. Harvests in pre-salmon moratorium years 1989-91 were low relative to those of the late 1970s and early 1980s. Rod days of effort have generally increased over time, especially in 1993-96. A total of 896 small salmon was retained in 1996 and 260 were released.

Data and assessment: Counts are available from a fishway located on the lower river. In 1994-96, a number of adults were removed as broodstock for an incubation facility for subsequent fry stocking back to Terra Nova River above Mollyguajeck Falls; these adults were deducted from spawning escapements in the calculation of percent of conservation requirement met presented above. A hook-and-release mortality of 10% was used in the calculation of spawning escapements for the years 1993-96.

State of the stock: The proportion of conservation requirement achieved in 1996 was 36%, the third highest on record. Although this river has never achieved conservation requirement, egg depositions during the moratorium years 1992-96 were generally higher than in pre-moratorium years.

STOCK: Northwest River (SFA 5) **Drainage area:** 689 km^2

CONSERVATION REQUIREMENT: 4.1 millions eggs (1,726 small salmon) calculated as fluvial area x 2.4 eggs/m^2 and lacustrine area x 368 eggs/ha.

Year	1991	1992	1993	1994	1995	1996	MIN	MAX	MEAN
Recreational harvest (small salmon)[1]									
Retained	30	139	133	164	97		30	336	182
Released			73	1	0	7	0	73	25
Recreational harvest (large salmon)[1]									
Retained	0	0	0	0	0	0	0	0	-
Released			0	3	0	0	0	3	-
Counts									
Small					498	593			
Large					135	203			
Conservation requirement									
% eggs met					40%	55%			

[1]Recreational fishery data for retained fish are for the period 1974 to 1991 (prior to the commercial fishery moratorium). Harvests for 1992 and 1993 are retained catches to the time the SFA quota was caught. Data prior to 1992 and for 1994-96 are retained fish for the entire angling season. The years 1979, 1987, and 1989 are omitted from calculations of min., max., and mean due to the closure of the river as a result of drought conditions. Data for released fish are for the years 1993-96.

Recreational catches: For the period 1974-91, harvests ranged from 30 to 336 small salmon. Rod-days of effort peaked during the late 1970s and reached lowest levels in the early 1990s; effort in 1994 however was among the highest recorded. In 1988, the portion of the lower river within the boundaries of Terra Nova National Park came under park management, using the National Park license and tagging system. Outside of park boundaries, the river was managed according to regulations in place for the remaining rivers in insular Newfoundland. In 1996, the river was closed to all angling following a pre-season analysis which projected that less than 50% of conservation requirement would be achieved. A subsequent in-season review projected that the river would receive in excess of 50% of conservation requirement and the river was opened to hook-and-release fishing on August 10; however, the portion of the river inside Park boundaries was not opened due to low water levels and high water temperatures.

Data and assessment: A count was obtained at a counting fence installed in the lower river in 1995 and 1996. The fence was operated by Terra Nova National Park personnel.

State of the stock: The river received 40% of conservation requirement in 1995 and 55% in 1996.